

Descriptive Statistics

Measure of central tendency		Appropriate?			
		Interval	Ordinal	Binary	Nominal
Mean	Describes the center (average) of the data distribution for a variable, weighted by every single value	Yes	(No)	(No)*	No
Median	Describes the center of the data distribution by rank order; not weighted by values	Yes	Yes	(No)+	No
Mode	Identifies the most frequently observed value	Yes	Yes	Yes	Yes
Proportion	Identifies the fraction of all observations that are a specific value	(No)	Yes	Yes	Yes
Percent	Same as a proportion, multiplied by 100%	(No)	Yes	Yes	Yes

Measure of dispersion

Minimum	Identifies the smallest observed value in the distribution
Maximum	Identifies the largest observed value in the distribution
Standard deviation	A measure of the spread (dispersion) of a distribution; identifies the average response distance from the mean(ish)
Skewness	Identifies whether the distribution has unexpectedly high values (skewed right; positive) or unexpectedly low values (skewed left; negative) that make the distribution asymmetrical
Interquartile range	A measure of the spread (dispersion) of a distribution that identifies the distance from the first quartile to the third quartile.
Quantiles	The value that divides the rank-ordered data distribution into proportional groupings. For example, quartiles divide the data into four equal parts. Quintiles divide the data into five equal parts. The value of a quantile is the observed value that indicates the “dividing line” between these groups. The .5 quantile is the median (and divides the data into two equal groups).

Visuals

Histogram	Identify the “shape” of a distribution. The continuous values of the variable are on the x-axis and the frequency of each observed value are the heights of the bars. Bars should be touching.
Box and whisker plot	Identify the median, 1 st and 3 rd quartiles, and expected minimum and maximum for the distribution. Identifies outliers.
Bar graph	Identify the relative proportions of nominal, binary, or ordinal variables. Bars are labeled with values and the height of each bar indicates the frequency or proportion of responses. Bars should not be touching.

* Same as proportion of 1 for properly coded (0/1) binary

+ Indicates mode for properly coded (0/1) binary